



DEPARTMENT OF TRANSPORTATION

MATERIALS TRANSPORTATION BUREAU

WASHINGTON, D.C. 20590

45197

[14 CFR Part 103]

[Docket No. 128; Notice No. 75-9]

CARRIAGE OF HAZARDOUS MATERIALS ABOARD AIRCRAFT

Notice of Proposed Rule Making

The Materials Transportation Bureau (MTB) is considering a series of amendments to Part 103 which would codify into that body of permanent regulations authority which in the past has been granted through the granting of administrative relief from various regulatory restrictions. They were granted by the Federal Aviation Administration on a case-by-case basis, to transport, subject to specific terms and conditions, certain materials on cargo-only aircraft when there was no other practicable means of transportation.

Each proposed amendment is based on the experience and favorable record of safety associated with the carriage of the material concerned over the last several years under exemptions or authorizations to deviate from the existing requirements of Part 103.

ACCESSIBILITY ON SINGLE PILOT, SMALL CARGO-ONLY AIRCRAFT

Section 103.31(b) of Title 14 CFR requires hazardous materials acceptable only for cargo aircraft to be carried in a location accessible to a crewmember in flight. Compliance with this regulation requires the presence of at least two crewmembers aboard the aircraft, even though only one person may be required to fly it. Materials that are not accessible to a crewmember in flight are subject to the quantity limitations prescribed for inaccessible materials in § 103.19 (a) and (c). As a consequence, the utilization of a small, cargo aircraft capable of operation by a single pilot is severely handicapped by the regulation due to its payload limitations and the expense of adding an additional crewmember.

The restriction imposed by § 103.31(b) bars the use of a small, single pilot aircraft to transport materials such as gasoline and other flammable liquids to remote communities, isolated sites of exploration teams, and other facilities located in areas not served by ground transportation or where roads can only be used during certain months, unless some administrative relief from that restriction is granted.

For a number of years the FAA, acting under the provisions of 14 CFR 103.5, has issued authorizations for small, single pilot cargo-only aircraft to deviate from the accessibility requirements of § 103.31 (b) to make deliveries of essential hazardous materials within the State of Alaska and other remote areas when means of transportation were not practicable or in emergencies.

In view of the excellent safety record of operations involving the carriage of hazardous materials in small aircraft pursuant to the conditions and limitations prescribed in those authorizations, the MTB

proposes to amend § 103.31(b) by relieving small, single pilot, cargo-only aircraft from the accessibility requirements of that paragraph while being used to transport hazardous materials to places which cannot be supplied by other means of transportation. The MTB believes these small aircraft operations can be conducted under the proposed amendment at a level of safety equivalent to that otherwise achieved through compliance with Part 103. Section 103.19 (a) and (c) which also deals with accessibility would also be amended to reflect the amendment to § 103.31(b).

DOT SPECIFICATION 17E CONTAINERS FOR FUEL

Section 103.33(c) (1) of Title 14 CFR allows certain limited supplies of fuel to be carried by small passenger-carrying aircraft and helicopters in Alaska and other remote areas, in metal containers that are either DOT Specification 2A containers of not more than 5 gallons capacity, each packed in DOT Specification 12B fiberboard boxes, in one of three DOT specification wooden boxes, or in a non-specification wooden box at least 1/2-inch thick. Section 103.33(c) (2) allows the use of any 10-gallon container of at least 28-gauge metal, if packed in one of the three DOT specification wooden boxes, or the 1/2-inch wooden box.

The Specification 2A container is required to be constructed of 28-gauge metal (0.0129 inch minimum thickness). A DOT Specification 17E container of 5-gallon capacity is required to be constructed of 24-gauge metal (0.0209 inch minimum thickness). Thus, a 5-gallon 17E is more than 60% thicker than the Specification 2A. A 24-gauge container is more resistant to puncture than a 28-gauge container by an order of 800 inch-pounds to 600 inch-pounds. It is MTB's conclusion that a 24-gauge 17E drum, alone, is at least equivalent in integrity to a 28-gauge Specification 2A container packed in a Specification 12B fiberboard box. Accordingly, MTB proposes to amend § 103.33(c) by adding DOT Specification 17E containers of not more than 5 gallons capacity as a packaging authorized for use under that section.

ACCUMULATED EXPERIENCE UNDER EXEMPTIONS AND AUTHORIZATIONS TO DEViate

Section 103.9 provides that no person may carry any dangerous material in a cargo-only aircraft except those that: (1) are specified in 49 CFR 172.5 as acceptable for shipment by rail express; (2) do not exceed the maximum quantity for each outside container specified in 49 CFR 172.5 for rail express; and (3) are packaged, marked, and labeled as specified in 49 CFR Part 173 for shipment by rail express.

Over the past several years the need to deliver a number of particular commodities classified as hazardous materials to remote places in Alaska and elsewhere has given rise to the develop-

ment of sets of special limitations and conditions for allowing those commodities to be transported by the only available means of transportation (i.e., cargo-only aircraft) in quantities in excess of the standard limitations prescribed for rail express in § 172.5. As a result, considerable experience has been gained and the techniques for safe transportation of these larger quantities of essential commodities have been perfected.

Therefore, the MTB proposes to add a § 103.37 to Part 103 expressly authorizing cargo-only aircraft operating under special limitations and conditions designed to assure a high level of safety, to deliver to places not served by other practical means of transportation certain hazardous materials which the MTB believes have been demonstrated through the FAA's exemption and deviation authorization experience to be fully capable of being safely transported.

EXPLOSIVES FOR USE IN BLASTING OPERATIONS

To meet the need for explosives to perform essential blasting operations and to conduct geological testing activities at remote locations, it has been necessary for exemptions and authorizations to deviate from the rail express prohibitions relating to Explosives A. In each case, the carriage of the explosives has been subject to specific requirements to assure a high level of safety. Air cargo-only transportation of commercial explosives has been performed under these controlled conditions for avalanche control, firefighting in wilderness areas, tunnel and other major earth-moving construction in areas inaccessible by surface transportation, and oil and other mineral exploration and extraction activities in remote areas.

Therefore, the MTB proposes to incorporate into the permanent body of regulations governing the transportation of hazardous materials the authority to transport explosives for blasting operations as the exclusive cargo on cargo-only aircraft to remote places. Blasting caps would be authorized for carriage on separate flights under the same conditions or with other non-hazardous cargo when placed in special packaging designed and constructed to contain the explosive force of the blasting caps should they be initiated.

FLAMMABLE LIQUIDS IN 55-GALLON CONTAINERS

Gasoline and certain other flammable liquids, as defined in 49 CFR 173.115(a), are limited for rail express and thus also for cargo-only aircraft to a maximum quantity of 10 gallons for each outside container by 49 CFR 172.5.

A Special Federal Aviation Regulation (SFAR) No. 28, was issued on March 28, 1974 (39 FR 12337, published April 5, 1974), to permit the carriage of flammable liquids, other than pyroforic liquids, in cargo-only aircraft within the State of Alaska in quantities that exceed the maximum quantity limitations of 49 CFR

172.5 but are not in excess of 55 gallons per outside container. As set forth in the preamble to SFAR No. 28, the principal reason for its adoption was to meet the demand for flammable liquids in areas of Alaska where other means of transporting larger quantities are unavailable or impracticable.

This demand was met for a number of years prior to issuance of that SFAR and since its expiration in March of this year through the issuance of deviation authorizations under § 103.5.

In addition to Alaska, a number of requests for deviation authorizations to carry flammable liquids in quantities in excess of the limitations of 49 CFR 172.5 via cargo-only aircraft to remote places elsewhere in the United States (primarily in the Pacific Northwest) have been granted during recent years. A review of operations under SFAR No. 28 and the related deviation authorizations indicates that no accidents or incidents have been recorded as a result of these operations.

Therefore, the MTB proposes to incorporate into the permanent body of regulations governing the transportation of hazardous materials the authority to transport gasoline and certain other flammable liquids used primarily for heating purposes by cargo-only aircraft in 55-gallon or smaller drums to remote places.

FLAMMABLE LIQUIDS IN INSTALLED BULK TANKS

The carriage of flammable liquids such as gasoline in bulk tanks, the installation of which has been approved under a supplemental type certificate has been permitted, pursuant to the exemption authority in Part 11 of the Federal Aviation Regulations (14 CFR Part 11) under certain limited circumstances. This means of transporting large quantities of flammable liquids has been employed for several years to supply the needs of isolated villages, exploration teams, Alaskan pipeline related operations, and other facilities not served by ground transportation or only seasonally served.

In view of these facts, the MTB proposes to authorize the carriage of certain flammable liquids to remote places where there are no other means of transportation in supplemental type certificate approved bulk tank installations subject to certain conditions developed and perfected through the exemption process experience. These conditions and limitations would, for the most part, govern the loading and unloading and carriage of liquids in the approved bulk tanks.

Interested persons are invited to submit views and comments on the proposal. A public hearing will be held for that purpose at 9:30 a.m. on October 23, 1975, in the third floor auditorium of Federal Office Building 10A (commonly referred to as the FAA Building) located at 800 Independence Avenue SW., Washington, D.C. Interested persons not desiring to present oral presentations are invited to submit their comments in writing. Comments should refer to the docket number and be submitted to: Docket Section, Materials Transportation Bureau, U.S. Department of Transportation, Transport Building, Washington, D.C. 20590.

All comments received before the close of business on November 8, 1975, will be considered, and will be available in the docket for examination both before and after the closing date. Comments received after the closing date and too late for consideration will be treated as suggestions for future rule making.

To the extent the proposals made herein may be adopted, the MTB contemplates combining them with those

it adopts in new Part 175 of 49 CFR proposed under Docket HM-112 (39 FR 3022, January 24, 1974).

In consideration of the foregoing it is proposed to amend 14 CFR Part 103 as follows:

1. Revise § 103.19 (a) and (c) to read as follows:

§ 103.19 Quantity limitations.

(a) Except as provided in § 103.31(b) in the case of small, single pilot, cargo-only aircraft being used when other means of transportation are not available or impracticable, no person may carry more than 150 pounds net weight of nonflammable compressed gas in any inaccessible cargo pit or bin on any aircraft.

(c) Except as provided in § 103.31(b) in the case of small, single pilot, cargo-only aircraft being used when other means of transportation are not available or impracticable, no person may carry more than 50 pounds of any article that is subject to this part (other than an article specified in paragraph (a) or (b) of this section and magnetized materials) in any inaccessible cargo pit or bin of any aircraft.

2. Revise § 103.31(b) to read as follows:

§ 103.31 Cargo location.

(b) Except in the case of a small, single pilot aircraft being used where other means of transportation are not available or impracticable, each person carrying materials acceptable only for cargo aircraft shall carry those articles in a location accessible to a crewmember in flight. When materials acceptable for cargo-only aircraft are carried on a small, single pilot, cargo-only aircraft being used where other means of transportation are not available or impracticable, they may be carried in a location that is not accessible to the pilot, subject to the following conditions:

(1) No person other than the pilot, an FAA inspector, the shipper or consignee of the material or a representative of the shipper or consignee so designated in writing, or a person necessary for handling the material may be carried on the aircraft.

(2) The pilot must be provided with written instructions on characteristics and proper handling of the material.

(3) Whenever a change of pilots occurs while the material is on board, the new pilot must be briefed under a hand-to-hand signature service provided by the operator of the aircraft.

3. Amend § 103.33(c) by adding a new paragraph (3) at the end thereof to read as follows:

§ 103.33 Transportation of gasoline, kerosene, or aviation gas in small, passenger-carrying aircraft.

(c) . . .

(3) DOT Specification 17E containers of not more than 5 gallons capacity.

4. Add a new section 103.37 to read as follows:

§ 103.37 Cargo-only aircraft; only means of transportation.

(a) Notwithstanding § 103.9(a) (1) and (2), when means of transportation other than air are not available or are impracticable, hazardous materials listed in the following table may be carried on a cargo-only aircraft subject to the conditions stated in the table and in paragraph (b) and, when appropriate, paragraph (c) of this section:

Material description	Class	Conditions
Electric blasting caps (more than 1,000).	Class A explosives.....	Permitted only when no other cargo is aboard the aircraft.
Electric blasting caps (less than 1,000).	Class C explosives.....	Permitted only when no other cargo is aboard the aircraft. However, if the electric blasting caps are packed in a DOT MC 201 container (49 CFR 178.313) or an IME 22 container (49 CFR 171(d)(9)) they may be transported in the same aircraft with materials that are not classed as hazardous materials.
Gasoline.....	Flammable liquid.....	Permitted in metal drums having rated capacities of 55 gal. or less. May not be transported in the same aircraft with materials classed as class A, B, or C explosives, corrosive materials, or oxidizing materials. Permitted in installed metal tanks each having a capacity of more than 110 gal. subject to the conditions specified in par. (c) of this section.
High explosives.....	Class A explosives.....	Limited to explosives used for blasting and permitted only when no other cargo is aboard the aircraft.
Oil, N.O.S. petroleum oil; or petroleum oil, not classed as N.O.S., explosive	Flammable liquid.....	Permitted in metal drums having rated capacities of 55 gal. or less. May not be transported in the same aircraft with materials classed as class A, B, or C explosives, corrosive materials, or oxidizing materials. Permitted in installed metal tanks each having a capacity of more than 110 gal. subject to the conditions specified in par. (c) of this section.
Combustible liquid, N.O.S.	Combustible liquid.....	Limited to combustible liquids used for fuel. Permitted in installed metal tanks each having a capacity of more than 110 gal. subject to the conditions specified in par. (c) of this section.

(b) The following conditions apply to all carriage of hazardous materials performed under the authority of this section:

(1) No person other than a required flight crewmember, an FAA inspector, the shipper or consignee of the material or a representative of the shipper or consignee so designated in writing, or a

person necessary for handling the material may be carried on the aircraft.

(2) The operator of the aircraft must have advance permission from the owner or operator of each manned airport where the material is to be loaded or unloaded or where the aircraft is to land while the material is on board.